

## PATENT

**REMARKS**

Claims 1-21 were submitted in the originally filed application. The Examiner has objected to Claims 1-10, and 14-16. In addition, the Examiner has rejected Claims 1-11 and 13-21. Applicants note that the Examiner has not made any rejections or objections to Claim 12. Nor has the Examiner indicated that Claim 12 would be allowable if written in independent form. However, in light of the fact that the Examiner has not expressly rejected or objected to Claim 12, Applicants consider Claim 12 to currently be in condition for allowance. Applicants have cancelled Claims 1-10 and 19. Accordingly, only Claims 11-18, 20, and 21 are currently pending in the present application.

Applicants note that the specification to which the Examiner referred was the originally filed version (single spaced). Applicants note that a revised version (one and a half spaced) was submitted and received by the PTO on 3/4/04.

The Examiner objected to the disclosure, noting that the serial number of the copending application referenced needed to be added. The Examiner also noted that "[3]" needed to be removed from the specification. These amendments to the specification are hereby made.

The Examiner objected to Claim 1. This objection is now moot in light of the cancellation of Claim 1.

The Examiner objected to Claims 6 and 16. Claim 6 is cancelled, and therefore the objection to Claim 6 is now moot. Claim 16 is hereby amended to overcome the Examiner's objection.

The Examiner objected to Claims 4 and 14. Claim 4 is cancelled, and therefore the objection to Claim 4 is now moot. Claim 14 is hereby amended to overcome the Examiner's objection.

Claims 2-10 and 15 inherited the deficiencies of Claims 1 and 14. These deficiencies having been traversed either by amendment or by cancellation of the offending claims, Applicants traverse the Examiner's objections to all currently pending claims.

Claims 9 and 19 have been rejected by the Examiner under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As noted above, Claims 9 and 19 have both been cancelled. Accordingly, the Examiner's rejection of these claims is now moot.

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Claims 1, 3-9, 11, and 13-19 are rejected under 35 U.S.C. section 102(e) as being anticipated by Everett. Applicants have cancelled Claims 1-10 and 19. Accordingly, the Examiner's rejection of Claims 1-10 and 19 is now moot. Applicants traverse the Examiner's rejection of Claims 11, 13-18, and 20 for the following reasons. Everett discloses an optical delay line. However, nothing in Everett teaches or suggests that the delay line be a miniature MOEMS delay line that can achieve a delay of at least approximately 100 pico-seconds. In fact, it is the very problems that exist with designs such as Everett's that are overcome by the system recited in Claim 11, et al. For example, the alignment of the components in Everett is very difficult to achieve and maintain. Furthermore, as noted in the present application, fabrication of the grating in kinoform shape using microtechnology provides advantages in terms of the efficiency of the delay line. In contrast, Everett merely discloses that a grating be used to "disperse[ ] the beam of radiation that impinges thereon into different spectral frequency or wavelength components that are collected, and focused by lens system 130". Accordingly, nothing in Everett teaches or suggests that the grating be fabricated by the same technology as an optical resonator, such as the one taught by Motamedi, et al. (U.S. Pat. No. 5,903,380). It should be noted that the use of MOEMS technology makes it possible to eliminate the need for both the plate 125 and the transition stage 185 required by the design disclosed by Everett. None of the references cited by the Examiner (including Motamedi, et al) teach or suggest the elimination of these components and the benefits that flow from the fabrication of the components of the invention claimed in the present application using MOEMS technology to ensure the alignment of the components as recited in Claim 11, from which all other pending claims now depend.

The Examiner has also rejected Claims 2 and 11 as being obvious over Everett in light of Palmer (Diffraction Grating Handbook). As noted above, Claim 2 has been cancelled and rejections of Claim 2 are now moot. Regarding Claim 11, Applicants respectfully point out that neither Everett nor Palmer teach or disclose the use of the optical scanning system of Motamedi together with other MOEMS components in order to provide a complete optical delay line in which more than just the scanner is fabricated using MOEMS technology in order to ensure the proper alignment of the components for the purpose of achieving at least a 100 pico-second delay and eliminate the need for components required by Everett, as noted above. More particularly, with regard to Claim 12, neither Palmer nor Everett disclose or suggest the

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use of a blazed grating fabricated using MOEMS technology which enables the grating to be more efficient than those previously disclosed.

The Examiner has also rejected Claims 10, 20-21 as being unpatentable over Everett in view of Motamedi, et al. As noted above, Claim 10 has been cancelled, Claim 20 is amended, and as such, the rejection of Claims 10 is now moot. Claim 21 depends from Claim 11. Therefore, for the reasons noted above regarding Claim 21, Applicants traverse the Examiner's rejection of Claim 21.

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Respectfully submitted,

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